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Fall 2020

West Chester University Green Legacy Project - Collections Management Plan

Office of Sustainability

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Collections Management Plan

Office of Sustainability, updated Fall 2020



Collections Management Plan

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West Chester University Collections Management Plan

Introduction

West Chester University Arboretum

Working alongside the governing and collection bodies, the West Chester University (WCU) Arboretum is the public aspect of the diverse tree population found on our campus. Arboretum status was developed to share the unique historical value and beauty of the trees that WCU provides to the community.

West Chester University Green legacy Project

The WCU Green Legacy Project was established in 2009 to collect and analyze the value of the trees found on campus by creating a database of the campus tree data. This faculty, staff and student partnership developed with the purpose of creating a GIS (geographic information systems) management database to document and illustrate the value of our trees for pollution reduction, carbon sequestration and storage, storm water management, and heating and cooling cost reduction. The primary research objective of the Green Legacy Project was to evaluate the benefits and management issues of our campus forest. The resulting geodatabase provides a tool for long-term management of our tree resource and for authentic classroom learning¹. The initial 2010 analysis calculated an estimated \$3.2 million dollar value to the University's trees with an annual benefit of \$250,000.²

The green legacy project continues today as the primary data collection and analysis system at West Chester University. With the combined efforts of volunteers, students, faculty, staff, and the community, we continue to gather the most up to date and accurate information on our "treasure of trees."

WCU Tree Advisory Committee

West Chester University established a Campus Tree Advisory Committee in April of 2012. The representatives include at a minimum a student, faculty member, facility management staff member, and a representative from the Borough of West Chester or an adjoining Township. The terms of the representatives are two years with the possibility of renewal for an additional term. The Campus Tree Advisory Committee will review and provide input on tree-related activities and issues on campus at West Chester University. It will also serve as a liaison between the University and surrounding community with respect to tree-related issues.³

Gordon Natural Area

The Robert B. Gordon Natural Area for Environmental Studies (GNA) comprises approximately 126 acres of the campus of West Chester University. The GNA is located in the southern portion of campus and is primarily composed of climax deciduous forest and floodplain. The area was preserved by provision of the West Chester University Board of Trustees in 1971. The mission of GNA is two-fold. 1) To preserve a natural area. All forms of human disturbance are to be minimized, thus limiting the types of activities that can be conducted in GNA. 2) To serve as a natural laboratory for environmental studies. The GNA is to be used for teaching and research in ecology and related environmental disciplines, and not as a recreational facility.⁴

The GNA not only supports a great range of life including plant, fungal, avian and vertebrate, but also serves as a "natural laboratory" for various environmentally-related courses. The Gordon area is an integral aspect of both the environment and education in Chester County. WCU strives to maintain this ecological sanctuary so that its many attributes are not lost to the pressures of development.⁵

WCU Office of Sustainability

West Chester University recognizes that one of the most significant challenges facing humanity is achieving a sustainable society. Accomplishing this depends on our ability to organize human activity so that society, its members and its economies are able to meet their needs and express their greatest potential in the present as well as the future. WCU intends to reduce its ecological impact and to promote research and service that foster regional and global sustainability.

The University hired a Director of Sustainability in 2017, and established the Office of Sustainability that provides oversight for sustainability issues at WCU. The Sustainability Council is a multi-disciplinary advisory group that furthers the University's mission by: providing campus-based research and teaching opportunities; promoting sustainability in the academic curriculum; advocating for environmentally-friendly facilities and procurement initiatives; enhancing campus aesthetics in an ecologically-sound manner; sharing data, and; engaging the community.⁶

The Living Collection

Objective/Project Mission

The Green Legacy Project (GLP) was developed in 2009 to understand the value of the trees on the West Chester University campus. The overall goal of the GLP is to maintain a database of the current state of the university's trees. This survey includes the collection of the field data of the trees (common name, Latin name, native status, Global Positioning System (GPS) location,

diameter at breast height (DBH), height, ground cover, die back, and condition). These data are also analyzed using CITYgreen by American Forests as well as the i-Tree ECO model of the United States Department of Agriculture (USDA) Forest Service to evaluate benefits received. The goal of the GLP is to keep the data current. This is done by continuous field data collection of growing, dead, newly planted, and removed trees.

Special Collection

Trees classified as being part of the ‘Special Collection’ are subject to prioritized data collection and maintenance. Special collection trees include, but are not limited to; the Pennsylvania “Big Tree” ‘Bartram’s Oak,’ trees included in the WCU Tree Walking Tour, Tanglewood’s PA Big Tree Registry black oak and beech trees, and the stately London Plane trees that line South Church Street.

Bartram’s Oak : http://pabigtrees.com/tree_detail.aspx?tree=TR20101005194926723

Tanglewood Black Oak: http://pabigtrees.com/tree_detail.aspx?tree=TR20200922145157443

Records System

Collection Methods

The Green Legacy Project’s database shall be updated and published utilizing established ESRI technologies or, updating database files from field data.

A: Technology Based Data Collection (preferred)

The database connected to the Green Legacy Project is located publically on an ESRI Rest server. These data are updated through the use of Arc Collector. Field data should be applied to the program and submitted. Once published the database is updated.

B: ‘Off Line’ Data Collection

Data can be collected without the use of Arc Collector, although it is not preferred. The same data shall be taken by hand and all data should be entered into the database as soon as possible once returning from the field.

C: New Tree Collection

New trees will be added to the database using the GLP tree numbering system. The WCU campus id divided into seven ‘plots.’ The database identifies trees using a four digit ID. The first digit of that code identifies the plot to which that tree is located. The remaining three digits are the tree number within that plot. (Example; Tree ID 3075 in the database is tree #75 in Plot 3).

When a new tree is located and GPS coordinates are recorded, that tree will be entered into the database as the four digit code and the tree will be numbered in the next number vacant in the

database. The tree will then be physically marked in blue ink with the tree number in an easily visible location.

D: Database Archiving

For research purposes the database shall be regularly archived. This should be done every six (6) months. The active database should be saved onto the university's server as the date retrieved. The database will then continue to receive updates creating a record of new and dead trees on campus.

GIS Based Management

The Green Legacy Project database shall be openly accessible to the students and faculty of West Chester University as well as the general public at this URL:

<https://data1-wcupagis.opendata.arcgis.com/datasets/gltrees/data>

Administrative Roles

A: Oversight

It is the responsibility of the administrative bodies to supervise all advancements to the Green Legacy Project. Overseeing all data collection and analysis for accuracy is of the utmost importance to the administrators. Organizing volunteers, interns, and paid data collectors as well as training proper data collection is the obligation of the administrative bodies. The success of the Green Legacy Project is the priority of these administrators and all decisions are subject to the approval of these bodies.

B: Future Selection and Design

The selection and design of new tree plantings at the university shall follow the "West Chester University Tree Care Policy." Planting of new trees should have the overall good of the University and Green Legacy Project in mind. Maintaining and enhancing species diversity as well as avoiding invasive species and trees that may be vulnerable to threats should be taken into consideration when choosing tree species to plant.

Contacts

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Organization Information



wcupa.edu/GreenLegacyProject



Wcupa.edu/gordonnaturalarea/



wcupa.edu/sustainability

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